1. A heat sink device comprising:

a bulk region;

an attachment surface on a first side of said bulk region; and

a convection surface on a second side of said bulk region wherein said bulk region, attachment surface, and convection surface comprise a conductive loaded, resin-based material comprising conductive materials in a base resin host.

2.The device according to Claim 1 wherein the ratio, by weight, of said conductive materials to said resin host is between about 0.20 and about 0.40.

3.The device according to Claim 1 wherein said convective surface comprises a plurality of fins.

4.The device according to Claim 1 wherein said conductive materials comprise metal powder.

5.The device according to Claim 4 wherein said metal powder is nickel, copper, silver, or is a material plated with nickel, copper, or silver.

6.The device according to Claim 4 wherein said metal powder comprises a diameter of between about 3 μm and about 12 μm.

7. The device according to Claim 1 wherein said conductive materials comprise non-metal powder.

8. The device according to Claim 7 wherein said non-metal powder is carbon, graphite, or an amine-based material.

9.The device according to Claim 1 wherein said conductive materials comprise a combination of metal powder and non-metal powder.

10.The device according to Claim 1 wherein said conductive materials comprise micron conductive fiber.

11.The device according to Claim 10 wherein said micron conductive fiber is nickel plated carbon fiber, stainless steel fiber, copper fiber, silver fiber or combinations thereof.

12.The device according to Claim 10 wherein said micron conductive fiber pieces each have a diameter of between

about 3 μm and about 12 μm and a length of between about 2 mm and about 14 mm.

13.The device according to Claim 1 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.

14.The device according to Claim 1 further comprising a metal layer overlying a part of said device.

15.A heat pipe device comprising:

a conduit comprising a conductive loaded, resin-based material comprising conductive materials in a resin host; and

a vaporizable liquid sealed inside said conduit.

16.The device according to Claim 15 wherein the ratio, by weight, of said conductive materials to said resin host is between about 0.20 and about 0.40.

17.The device according to Claim 15 wherein said convective surface comprises a plurality of fins.

18.The device according to Claim 15 wherein said conductive

materials comprise metal powder.

19.The device according to Claim 18 wherein said metal powder is nickel, copper, silver, or is a material plated with nickel, copper, or silver.

20.The device according to Claim 18 wherein said metal powder comprises a diameter of between about 3 μm and about 12 μm.

21. The device according to Claim 15 wherein said conductive materials comprise non-metal powder.

22. The device according to Claim 21 wherein said non-metal powder is carbon, graphite, or an amine-based material.

23.The device according to Claim 15 wherein said conductive materials comprise a combination of metal powder and non-metal powder.

24.The device according to Claim 15 wherein said conductive materials comprise micron conductive fiber.

25.The device according to Claim 24 wherein said micron conductive fiber is nickel plated carbon fiber, stainless steel fiber, copper fiber, silver fiber or combinations thereof.

26.The device according to Claim 24 wherein said micron conductive fiber pieces each have a diameter of between about 3 μm and about 12 μm and a length of between about 2 mm and about 14 mm.

27.The device according to Claim 15 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.

28.The device according to Claim 15 further comprising a metal layer overlying a part of said device.

29. The device according to Claim 15 further comprising a wicking material inside said conduit wherein said wicking layer is capable of storing said vaporizable liquid in the liquid state.

30. The device according to Claim 29 wherein said wicking layer is a sintered powder, a grooved tube, or a wire mesh.

31.An electrical system device comprising:

an electrically powered device; and

a thermal dissipation device comprising a conductive loaded, resin-based material comprising conductive materials in a resin host.

32.The system according to Claim 31 wherein said thermal dissipation device comprises a heat sink.

33.The system according to Claim 31 wherein said thermal dissipation device comprises a heat pipe.

34.The system according to Claim 31 wherein said thermal dissipation device comprises a heat pipe.

35.The device according to Claim 31 wherein the conductive materials comprise a conductive powder.

36.The device according to Claim 31 wherein said conductive materials comprise a micron conductive fiber.

37.The device according to Claim 31 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.

38.The device according to Claim 31 further comprising a metal layer overlying a part of said device.

39.The device according to Claim 31 further comprising a means to force air across said convection surface.

40.The device according to Claim 31 further comprising a liquid in direct contact with said convection surface.

41.A method to form a thermal dissipation device, said method comprising:

providing a conductive loaded, resin-based material comprising conductive materials in a resin-based host; and

molding said conductive loaded, resin-based material into a thermal dissipation device.

42.The method according to Claim 41 wherein the ratio, by weight, of said conductive materials to said resin host is between about 0.20 and about 0.40.

43.The method according to Claim 41 wherein the conductive materials comprise a conductive powder.

44.The method according to Claim 41 wherein said conductive materials comprise a micron conductive fiber.

45.The method according to Claim 41 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.

46.The method according to Claim 41 further comprising a metal layer overlying a part of said device.

47.The method according to Claim 41 wherein said molding comprises:

injecting said conductive loaded, resin-based material into a mold;

curing said conductive loaded, resin-based material; and

removing said thermal dissipation device from said mold.

48.The method according to Claim 41 wherein said molding comprises:

injecting said conductive loaded, resin-based material into a chamber;

extruding said conductive loaded, resin-based material out of said chamber through a shaping outlet; and

curing said conductive loaded, resin-based material to form said thermal dissipation device.

49.The method according to Claim 41 further comprising stamping or milling said molded conductive loaded, resin-based material.

50.The method according to Claim 41 further comprising forming a metal layer around said conductive loaded, resin-based material.

51.The method according to Claim 50 wherein said step of forming a metal layer around said conductive loaded, resin-based material is by plating or by coating said metal layer.

52.A combined light and heat sink device comprising:

a light; and

a first terminal connected to said light;

a second terminal connected to said light; and

a heat sink wherein said first and second terminals and said heat sink comprise a conductive loaded resin-based material.

53.The device according to Claim 52 wherein said first terminal and said heat sink are a single, homogeneous piece of said conductive loaded resin-based material.

54.The device according to Claim 52 wherein the ratio, by weight, of said conductive materials to said resin host is between about 0.20 and about 0.40.

55.The device according to Claim 52 wherein said conductive materials comprise metal powder.

56.The device according to Claim 55 wherein said metal powder is nickel, copper, silver, or is a material plated with nickel, copper, or silver.

57.The device according to Claim 55 wherein said metal powder comprises a diameter of between about 3 μm and about 12 μm.

58. The device according to Claim 52 wherein said conductive materials comprise non-metal powder

59. The device according to Claim 58 wherein said non-metal powder is carbon, graphite, or an amine-based material.

60.The device according to Claim 52 wherein said conductive materials comprise a combination of metal powder and non-metal powder.

61.The device according to Claim 52 wherein said conductive materials comprise micron conductive fiber.

62.The device according to Claim 61 wherein said micron conductive fiber is nickel plated carbon fiber, stainless steel fiber, copper fiber, silver fiber or combinations thereof.

63.The device according to Claim 61 wherein said micron conductive fiber pieces each have a diameter of between about 3 μm and about 12 μm and a length of between about 2 mm and about 14 mm.

64.The device according to Claim 52 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.